

ABSTRACT

[0035] The present invention comprises an antifuse having a hemispherical grained (HSG) layer and a method of forming antifuse having a hemispherical grained (HSG) layer. The antifuse of the present invention comprises a plurality of layers, the first being a lower electrode that is disposed on an impurity region in a semiconductor substrate. A dielectric layer is disposed on the lower electrode, wherein the dielectric layer has a planar surface. A non-conductive hemispherical grain (HSG) layer is formed on the planar surface of the dielectric layer and an upper electrode is disposed on said non-conductive hemispherical grain (HSG) layer forming the antifuse.